

IN THE CLAIMS

1. (Currently Amended) A high damage tolerant Al-Cu 2xxx-series alloy rolled product having a high toughness and an improved fatigue crack growth resistance, comprising the following composition (in weight percent):

Cu: 3.8 - 4.7
Mg: 1.0 - 1.6
Zr: 0.06 - 0.18
Mn: [[> 0.15]] 0.2 - 0.45
Cr < 0.15
Fe: ≤ 0.15
Si: ≤ 0.15,

the balance essentially aluminum and incidental elements and impurities, wherein the alloy product comprises Mn-containing dispersoids and Zr-containing dispersoids, and wherein the alloy product is in a ~~T39~~ or T351 temper.

2. (Cancelled)

3. (Original) Alloy product according to claim 1, wherein said alloy product is recrystallized to at least 75%.

4. (Original) Alloy product according to claim 1, wherein said alloy product is recrystallized to at least 80%.

5. (Cancelled)

6. (Cancelled)

7. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Mn is in a range of 0.25 to 0.30%.

8. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Cu is in a range of 4.0 to 4.7%.

9. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Cu is in a range of 4.0 to 4.4%.

10. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Cu is in a range of 4.1 to 4.3%.

11. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Mg is in a range of 1.0 to 1.4%.

12. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Mg is in a range of 1.1 to 1.3%.

13. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Fe is in a range of $\leq 0.10\%$.

14. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Si is in a range of $\leq 0.10\%$.

15. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Zr is in a range of 0.09 to 0.15%.

16. (Original) Alloy product according to claim 1, wherein the amount (in weight %) of Cr is in a range of 0.05 to 0.15%.

17. (Original) Alloy product according to claim 1, wherein the sum (in weight %) of Zr+Cr is in a range of < 0.20%.

18. (Original) Alloy product according to claim 1, wherein the sum (in weight %) of Zr+Cr is in a range of 0.10 to 0.13%.

19. (Original) Alloy product according to claim 1, wherein the alloy product is substantially Ag-free.

20. (Original) Alloy product according to claim 1, wherein said alloy further comprises one or more of the elements Zn, Hf, V, Sc, Ti or Li, the total amount less than 1.00 (in weight %).

21. (Currently Amended) Alloy product according to claim 1, having a microstructure wherein the grains have an average length to width aspect ratio of smaller than about 4 to 1, wherein the amount (in weight %) of Cu is in a range of 4.1 to 4.4%.

22. (Currently Amended) Alloy product according to claim 21, having a microstructure wherein the grains have an average length to width aspect ratio of smaller than about 3 to 1, wherein the amount (in weight %) of Cu is in a range of 4.1 to 4.4%.

23. (Currently Amended) Alloy product according to claim 21, having a microstructure wherein the grains have an average length to width aspect ratio of smaller than about 2 to 1, wherein the amount (in weight %) of Cu is in a range of 4.1 to 4.4%.

24. (Original) Alloy product according to claim 1, wherein the alloy product has a fatigue crack growth rate of less than 0.001 mm/cycles at $\Delta K=20 \text{ MPa}\sqrt{\text{m}}$ when tested according to ASTM-E647 on 80 mm wide M(T) panels at $R=0.1$ at constant load and at a frequency of 8 Hz.

25. (Original) Alloy product according to claim 24, wherein the alloy product has a fatigue crack growth rate of less than 0.01 mm/cycles at $\Delta K=40 \text{ MPa}\sqrt{\text{m}}$ when tested according to ASTM-E647 on 80 mm wide M(T) panels at $R=0.1$ at constant load and at a frequency of 8 Hz.

26. (Currently Amended) Alloy product according to claim 1, wherein the alloy product has been manufactured by a process comprising the steps of casting, hot rolling, optionally cold rolling, solution heat treating, quenching the solution heat treated product, stretching the quenched product, naturally ageing to product to achieve a T39 or T351 temper condition.

27. (Original) Alloy product according to claim 1, wherein the alloy product has a thickness of in a range of 2.0 to 12 mm.

28. (Original) Alloy product according to claim 1, wherein the alloy product has a thickness of in a range of 25 to 50 mm.

29. (Original) Alloy product according to claim 1, wherein the alloy product is processed into a fuselage sheet of an aircraft.

30. (Original) Alloy product according to claim 1, wherein the alloy product is processed into a lower-wing member of an aircraft.

31. (Currently Amended) Alloy product according to claim 1 consisting of, in weight %:

Cu 3.8 - 4.7
Mg 1.0 - 1.6
Zr 0.06 - 0.18
Mn ~~[[>0.15 - 0.50]]~~ 0.31 - 0.45
Cr < 0.15
Fe ~~≤ 0.15~~
Si ≤ 0.15,

the balance essentially aluminum and incidental elements and impurities, wherein each impurity is present at 0.05% maximum and the total of impurities is 0.20% maximum.

32-37. (Cancelled).

38. (Previously Presented) Alloy product according to claim 1, wherein the amount (in weight %) of Zr is in a range of 0.14 to 0.18%.

39. (Currently Amended) Alloy product according to claim 1, wherein the amount (in weight %) of Mn is in a range of 0.40 to 0.45%.

40. (Currently Amended) Alloy product according to claim 1, wherein the amount (in weight %) of Cu is in a range of 3.8 to 4.4%.

41. (Currently Amended) Alloy product according to claim 1, wherein the amount (in weight %) of Mn is in a range of 0.40 to 0.45% and the amount of Fe is at most 0.6% ~~said alloy product is in a T351 temper.~~

42. (Currently Amended) A high damage tolerant Al-Cu 2xxx-series alloy rolled product having a high toughness and an improved fatigue crack growth resistance, consisting essentially of the following composition (in weight percent):

Cu: 3.8 - 4.7
Mg: 1.0 - 1.6

Zr: 0.06 - 0.18
Mn: $[[> 0.15]]$ 0.2 - 0.45
Cr < 0.15
Fe: ≤ 0.15
Si: ≤ 0.15 ,

the balance essentially aluminum and incidental elements and impurities, wherein the alloy product comprises Mn-containing dispersoids and Zr-containing dispersoids, and wherein the alloy product is in a ~~T39~~ or T351 temper.

43. (Currently Amended) Alloy product according to claim 42, wherein the amount (in weight %) of Mn is in a range of 0.40 to 0.45% and the amount of Fe is at most 0.06% ~~said alloy product is in a T351 temper.~~

44. (New) Alloy product according to claim 42, wherein the amount (in weight %) of Mn is in a range of 0.31 to 0.45% and the amount of Fe is at most 0.05%.

45. (New) Alloy product according to claim 31, wherein the alloy product has been manufactured by a process comprising the steps of casting, hot rolling, optionally cold rolling, solution heat treating, quenching the solution heat treated product, stretching the quenched product 1 to 5%, naturally ageing to product.

46. (New) Alloy product according to claim 1, wherein the amount (in weight %) of Cu is in a range of 4.1 to 4.4%.